

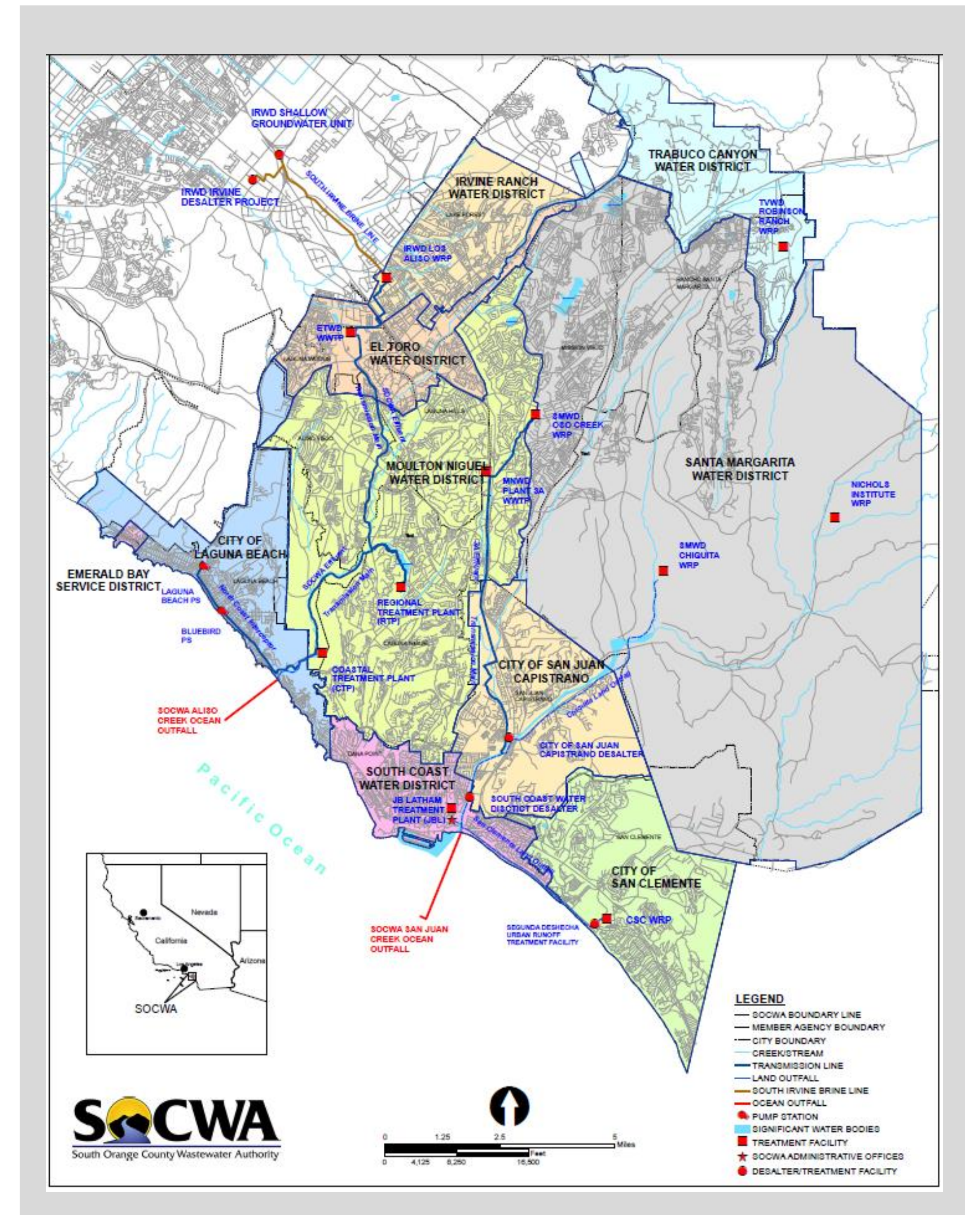
Laboratory Compliance + Utility Management

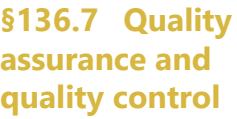
Amber Baylor

Director of Environmental Compliance

South Orange County Wastewater Authority

October 2, 2018



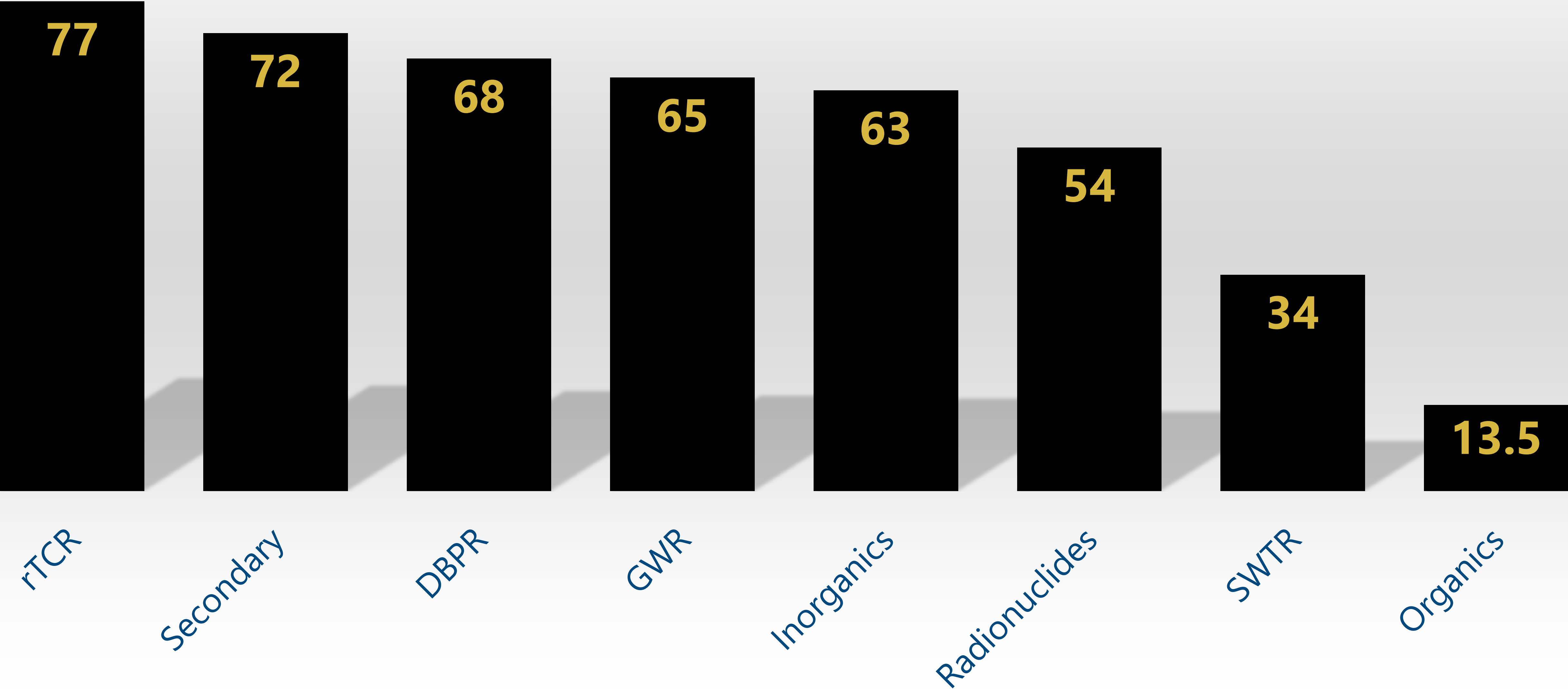


DRINKING WATER, WASTEWATER, STORMWATER,
BIOSOLIDS, RECYCLED WATER, & AIR QUALITY

The Safe Drinking Water Act, the Clean Water Act, & Clean Air Act are the National Foundational Laws for public utility compliance. California led the Nation with the Porter Cologne Act (California Water Code Section 7) which created an integral tool for water quality protection. California's Environmental Laboratory Accreditation Act governs Laboratory Accreditation. The Code of Federal Regulations (40 CFR, Parts 136 & 141), California Code of Regulations (CCR Titles 17 & 22), and the Health & Safety Code form other important components for compliance for public utilities.

Percent Standard Methods Referenced CFR

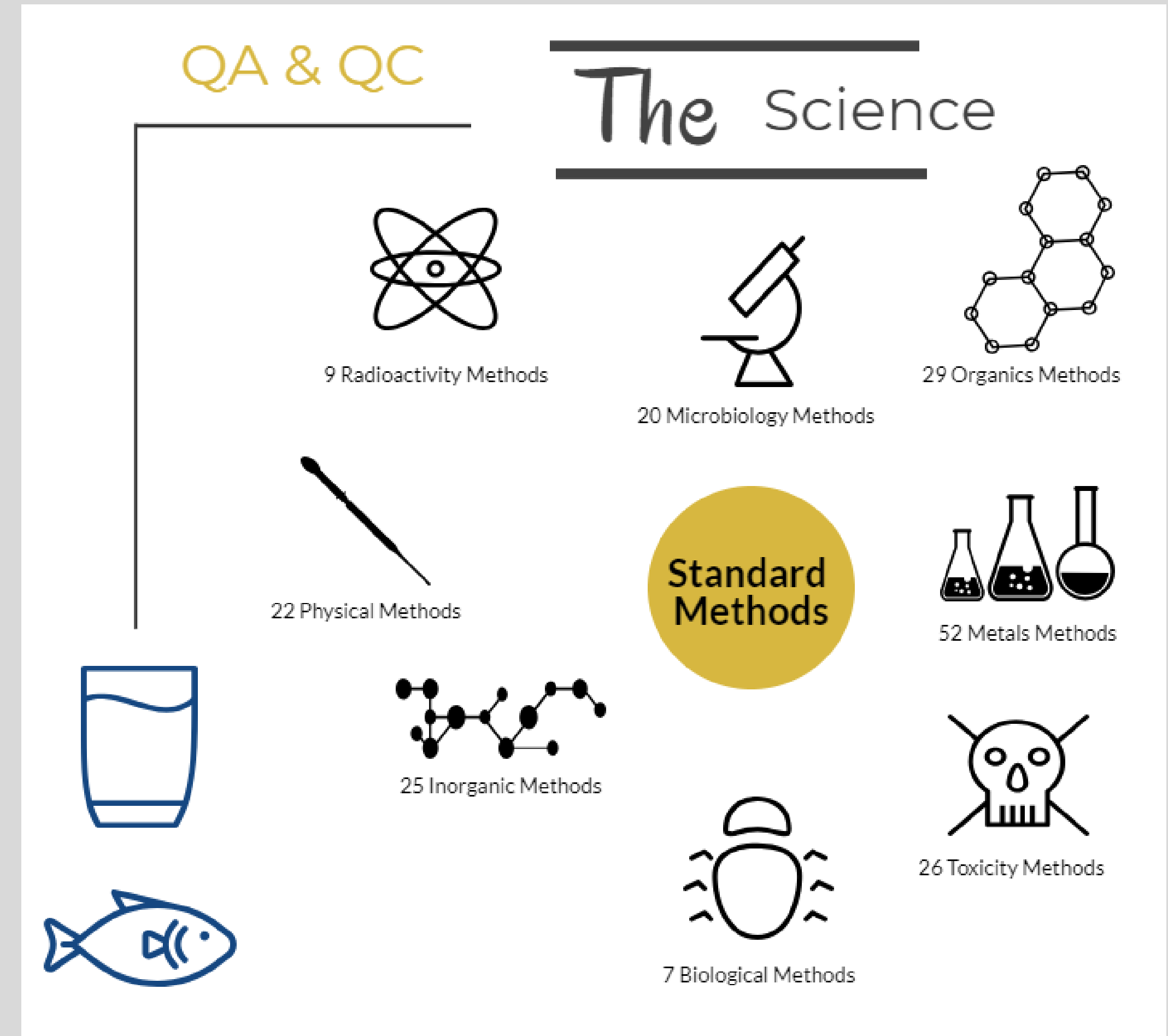
Drinking Water Rules



STANDARD METHODS

THE GOLD STANDARD

Standard Methods for the Examination of Water and Wastewater is the Gold Standard for methods accredited by ELAP. Standard Methods was first published in 1905 and is on the 23rd edition. Quality assurance and quality control is an essential component of all of the standard methods. Sponsoring organizations include the Water Environment Foundation, the American Water Works Association, and the American Public Health Association.



COMPLIANCE with rTCR:



COLLECTION & ANALYSIS

Current Quality Assurance + Quality Control Elements



Sample Collection

- 1) Qualified Personnel
- 2) Chain of Custody
- 3) Sterile Bottles
- 4) Sample Procedures
- 5) Certified Thermometer
- 6) Clean Cooler
- 7) Clean Transportation

Sample Analysis

- 1) Qualified Personnel
- 2) Chain of Custody
- 3) Analysis Procedures
- 4) Reference Control
- 5) Certified Thermometer
- 6) Clean Laboratory
- 7) Maintained Equipment

Sample Reporting

- 1) Qualified Personnel
 - 2) Additional Verification
 - 3) Audit Chain
 - 4) Pre-Report
 - 5) Data Review
 - 6) LRP Submittal
 - 7) Consumer Confidence
-

PERSONNEL COSTS

Utility Management Perspective

FY 17-18 SOCWA Budget

13 Cost Centers (Including Drinking Water)

Average Cost Center \$164, 462

Drinking Water Requires more Labor 10% = \$213,800

Coliform Testing 20% Drinking Water Testing

Personnel Budget – \$1,221,930

\$2,138,000 with Loaded Rate (75%)

Additional FTE – Proposed Regulation

\$2,269,250 with Loaded Rate (75%)

1 FTE = \$131,250 with Loaded Rate (\$75,000 + Loaded Rate)



Laura, Jim, Amber & Charles of SOCWA's Lab

Cost Center Drinking Water Labor:

\$42,760 Coliform Testing (~2000 Tests/Year)

\$21.38/sample

Proposed Regulation Cost Center:

\$45,385 Coliform Testing (~2000 Tests/Year)

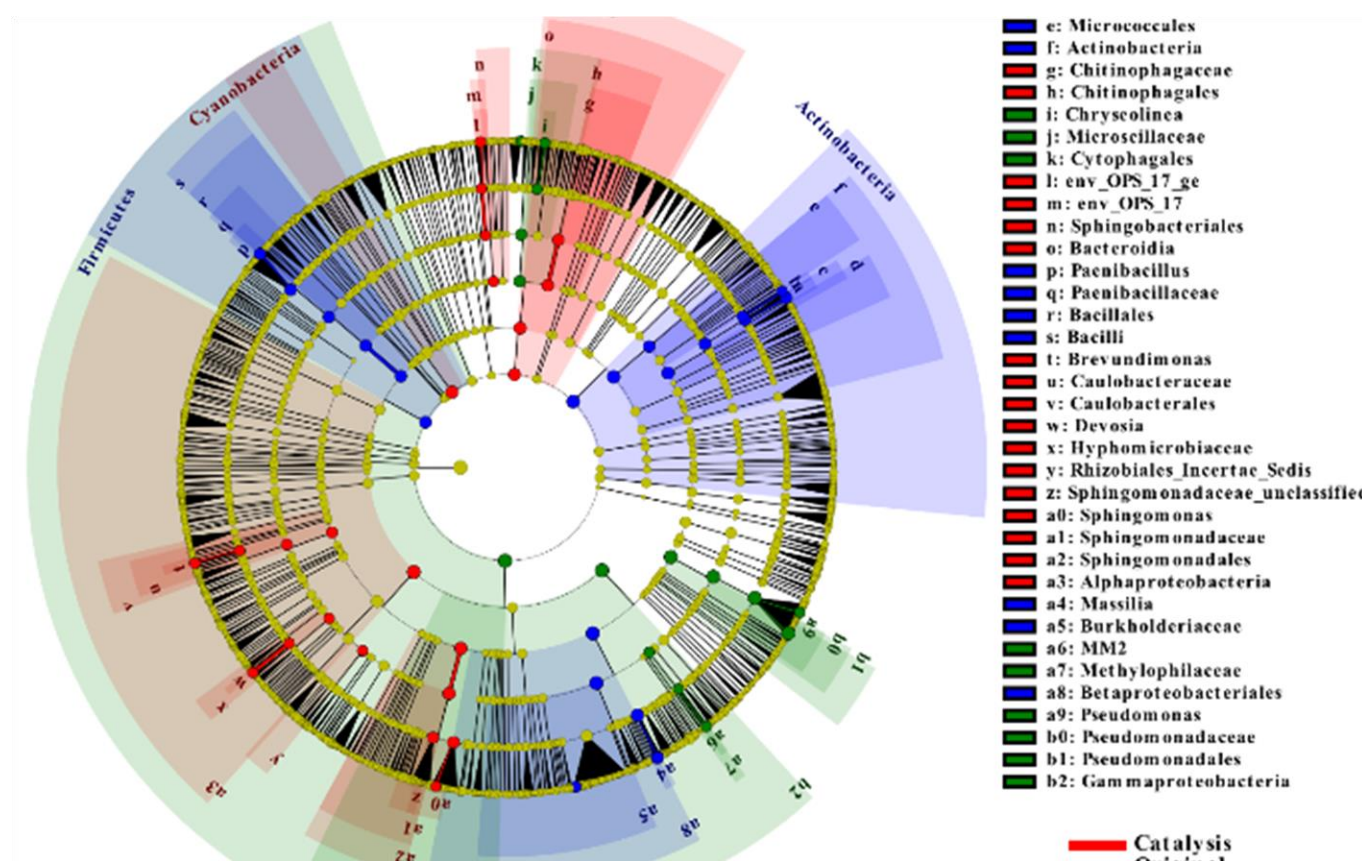
\$22.69/sample

\$1.31/Sample Increase in Cost

Compliance Requirements | 5 FOT | 31 Methods | 6 FTE | 1 FTE LRP

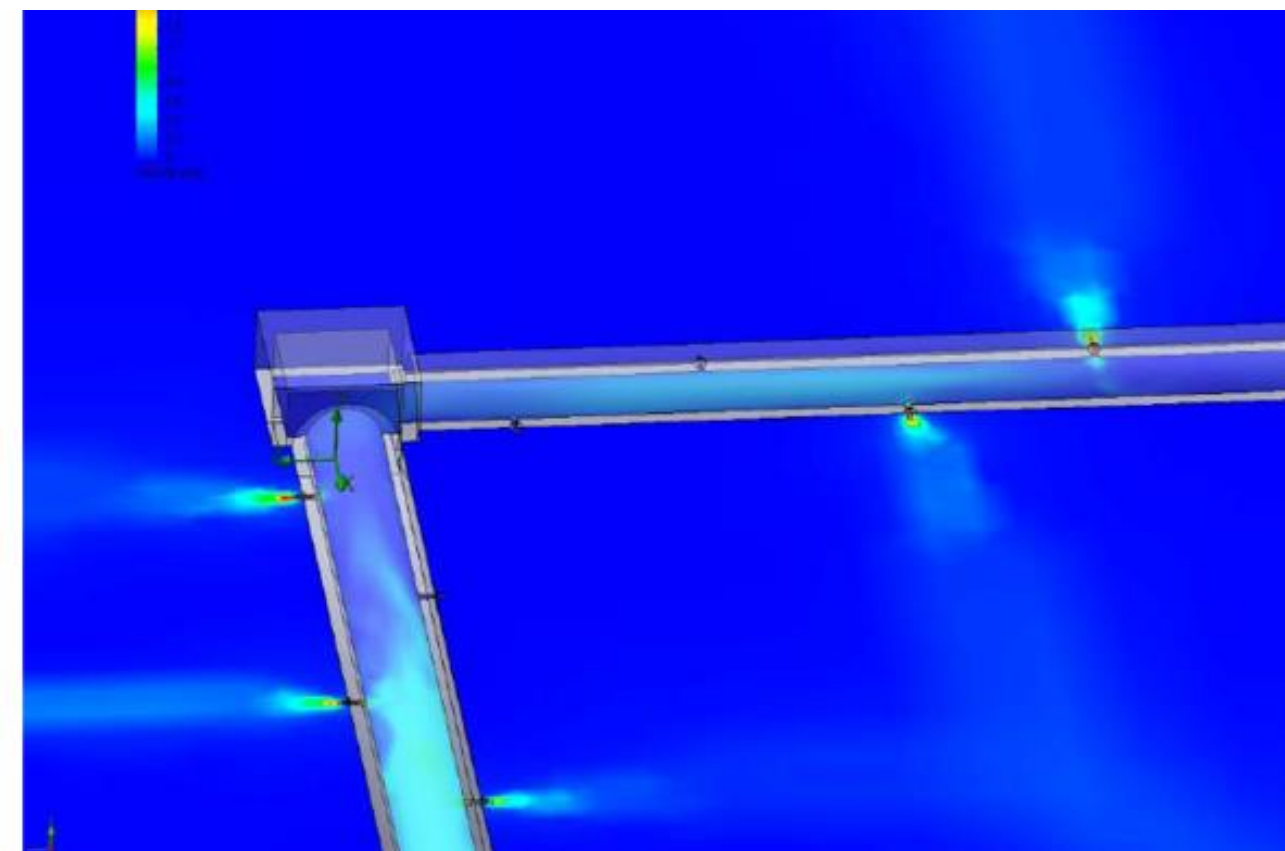
OUR RESEARCH AT WORK

THE CASE FOR SCIENCE



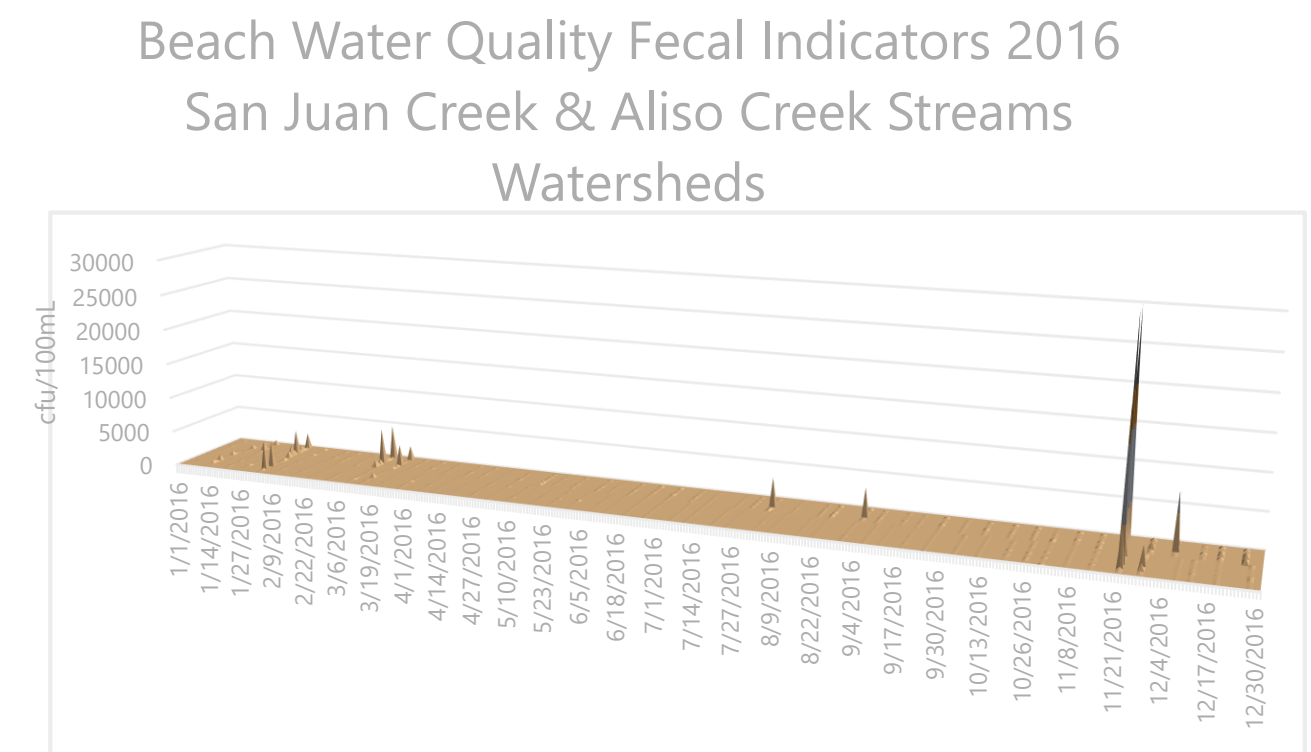
PROJECT BIOGAS

Optimizing Microbial Communities in Anaerobic Digesters for Improved Biogas Production & Local Energy Production



PROJECT HYDRODYNAMICS

Analysis of Outfall Flow Mixing for Optimal Performance in Reduced Flows



PROJECT BEACH HEALTH

Water Quality Analysis of the Impact from Surface Water Diversions to Inform Capital Improvements for MS4 Compliance



“Unreasonable haste is the direct
road to error.”

Molière